

REMARKS / ARGUMENTS

1. Status of the Claims:

Claims 1-4, 6-21, 24-25, 27-28, 37-41 were pending prior to this amendment. Claims 1 and 14 have been amended for the reasons indicated below, and claim 81 has been added herein. Claim 20 has been amended to correct a typographical error. Thus, Claims 1-4, 6-21, 24, 25, 27-28, 37-41 and 81 remain pending after this amendment.

In the non-final Office Action dated 8/14/2006: the examiner rejected claims 1-2, 6-17, 27, 28, 37, 38, 40 and 41 under 35 USC 103 as obvious over Stewart (US 3,718,164). The limitation of a "forward acute angle" is asserted to be met in light of the examiner's official notice that a curved leveler blade, or a leveler blade with a with a flat tail section would be viewed would be an obvious design choice, apparently, for leveling a powder in a powder bed;

Claims 1-2, 7-9, 24-25, 27-28, 37-39 and 40 were rejected under 35 USC 103 as obvious over Stewart (US 3,718,164) in view of Vaughn (US 2,365,920);

Claims 19-21 were rejected under 35 USC 103 as obvious over Stewart (US 3,718,164) in view of Morris (US 4,850,259); and, lastly,

Claims 3-4 were rejected as unpatentable over Stewart in view of, applicant assumes, the examiner's official notice that single or multiple curved or acutely angled leveler blades would be an obvious design choice for a disclosed straight single blade, further in view of Yamamoto (US 4,731,979).

2. The rejection of claims 1-2, 6-17, 27, 28, 37, 38, 40 and 41 under 35 USC 103 as obvious over Stewart (US 3,718,164), in light of the official notice taken by the examiner, is traversed, as one of ordinary skill in the art would not be motivated to modify Stewart in a manner which would increase the bulk density of the powder in the Stewart powder bed.

Claim 1 has been amended to recite that "as the blade moves on the sweeping path it: exerts a non-gravitation force directed toward the first opening upon the region of powder positioned over the first opening to assist the powder flow into the first opening as the leveler blade passes over said first opening; and

leaves powder behind on the first side at a pre-selected positive height above said first side of said plate. *

In contrast with the claimed invention, Stewart discloses an apparatus for feeding powders into receivers 31 that functions quite differently. The device consists of a base plate 10 containing a plurality of apertures 11. Below the base plate is a sliding plate 12, which contacts the base plate in a sealing fashion. The sliding plate has a series of passages 13, which are able to be aligned with the apertures. When aligned, the passages permit the contents of the apertures to flow through the sliding plate. When the apertures and passageways are not aligned, the sliding plate seals the apertures to allow volumetric metering of material into the apertures.

In the device, the powder to be filled into the apertures is maintained in one end of a hopper 20 of which plate 10 forms the base. The powder is drawn along the upper surface 15 of the base plate 10 by a doctoring blade 23. Charges of powder 24 are thereby introduced into the dispensing apertures 11 and made level with feed surface 21. When the sliding plate is moved such that the passageways and apertures are aligned, the powder charges are transferred by gravity into a series of funnels 30, which deliver the charges to receivers 31 positioned below the funnel. (US '164, col. 2, lines 30-62). The doctoring blade 23 is depicted as being positioned perpendicular to the base plate 10 (as in Fig. 2).

Repeatedly, the Stewart patent indicates that the significant advantage the filling system described offers is that *the bulk density of the powder remains substantially unchanged through the filling process*. (US '164, col. 1, lines 7-11; col. 1, lines 41-44; col.2, lines 60-62; col. 3, lines 6-10; col. 3, 45-53, see also claims 1 and 6- "without alteration of the bulk density thereof").

The examiner asserts that it would have been obvious for one of ordinary skill to modify Stewart by inclusion of a doctor blade with a forward acute angle to the sweeping path. The Examiner ignores the essential requirement for the powder feeding device in Stewart to not modify the bulk density of the powder. The perpendicular blade of Stewart is selected to accomplish this end.

As the instant application makes clear, however, a blade with an acute angle to the sweeping path compresses the powder in the hopper. (See page 2, 2nd full paragraph). Similarly, at page 9, final paragraph, providing the leveler blade with a forward acute angle results in the leveler blade applying a compressive force on the powder.

Thus, modifying the Stewart device as the examiner suggests, by employing a blade with a forward acute angle, would result in a situation where the bulk densities of the powder in the hopper and the powder in the apertures would be different. In light of Stewart's teaching that bulk density should not be changed, there is absolutely no motivation to modify the primary Stewart reference as required under the law pertaining to obviousness.

The examiner has taken the position that one of ordinary skill would see a curved or angled blade as interchangeable with a straight blade. This ground was first raised in respect to Morris (US 4850295). Morris, it will be noted, uses a blade to level a powder in a powder bed. In this sense, a straight blade levels a powder as would a curved blade or an acutely angled blade. However, this does not mean that one of ordinary skill would view such various configurations interchangeable for all reasons and under all circumstances. For example, a straight/perpendicular blade when drawn through a powder exerts a sideways directed force on the powder it is being drawn through, leaving behind a powder with a level surface without compressing to any significant extent the leveled powder. In this scenario, bulk density is not changed to any significant amount in the powder bed.

In contrast, a curved blade or an acutely angled leveler blade will exert a non-gravitational force on a powder through which it is being passed. The non-gravitational force exerted by the blade face increases as the blade moves through the powder bed, acting to compress the powder. In particular, the powder bed is decreases in height and increases in compression as passes under the blade/leveler face. The powder is ultimately forced through the constriction (i.e. gap) under the blade as the curved or acutely angled blade passes through the powder, and in doing so the powder is compressed,

decreasing the interstitial space between particles in the powder, and thus increasing the bulk density of the powder as it passes under the blade.

Thus, although straight, curved and angled blades are all capable of leveling powders as might be applicable to a powder bed as in Morris, one of ordinary skill would recognize they are not interchangeable under all circumstances. For example, one of ordinary skill would not view the straight/perpendicular blade of Stewart, which would not increase the bulk density of the powder, as interchangeable with the forward acutely angled blade as claimed. This is because the forward acutely angled blade leads to powder compression, a decrease in the interstitial space between the powder particles, and thus an increase in the bulk density of the powder. Stewart teaches away from such a modification.

Thus, the official notice taken by the examiner does not lead automatically to the conclusion that claims 1-2, 6-17, 27, 28, 37, 38, 40 and 41 under 35 USC 103 as obvious over Stewart (US 3,718,164). In fact, one of ordinary skill would not be motivated to make the modification suggested by the examiner.

This is not a case where the features of a secondary reference can't be bodily incorporated into a primary reference, as the examiner alludes to by reference to In re Keller, 642 F2d 413, 208, USPQ 871 (CCPA 1981), in paragraph 7 in the last Office Action. This is a case where the primary reference infers that making a modification that changes the bulk density of the powder is undesirable, thus suggesting to those skilled in the art such changes *should not be undertaken*. Under these circumstances, there is a teaching away and no motivation to combine the references as suggested by the examiner.

Additionally though, the examiner states that the Stewart blade is "non-contactingly spaced from the first (top) side of the perforate plate." Claim 1 has been amended to recite that the blade is non-contacting spaced above the perforate plate to leave "powder behind on the first side at a pre-selected positive height above said first side of said plate." Stewart does not teach such a configuration. The blade of Stewart removes to the extent possible the residual powder when the blade is passed across the upper surface 15, see col. 2, lines

49-55). Stewart, as depicted in Fig 2 and as indicated between the solid and hashed alternative positions of plate 23, demonstrates that the powder is located in the apertures, but not on the plate between the apertures after the leveling function has occurred. See also, col. 3, lines 45-53, relating to the function of doctoring blade 23 "engaging the feed surface of the base plate." Therefore, Stewart does not leave behind powder at a pre-selected positive height above the first side of the perforate plate. For this additional reason, the claims are not rendered obvious in light of Stewart.

Claim 14 has been amended to specify that the plural movements of the first leveler relative to the perforated plate occur prior to transferring the contents of the perforation to said container, as in one aspect of the invention. This amendment is made to better define the subject matter of this claim, and this aspect is additionally not taught or suggested by the Stewart reference. The Stewart reference discloses a single pass to allow the flow of a non-compressed powder into the apertures in the plate. There is no disclosure or suggestion that this action is repeated prior to transferring the contents of the aperture to a container.

Concerning the rejection of claims 9, the angle of a leveler blade, as it moves from vertical, increases the downward compressive force exerted on the upper surface of the powder compressing the powder as the blade passes through the powder mass. This point again relates to the undesirability of increasing bulk density as set forth in the Stewart reference. Selection of the claimed angle range would not be suggested to one of ordinary skill by the primary Stewart reference as the increasing angles would act to modify the bulk density of the powder, contrary to the teachings of Stewart.

For these reasons, Applicant respectfully asserts that the rejection of claims 1-2, 6-17, 27-28, 37-38, and 40-41 should be withdrawn.

3. Claims 1-2, 7-9, 24-25, 27-28, 37-40 are patentable over Stewart in view of Vaughn, as the skilled artisan would not seek to modify Stewart to compress the powder (as discussed previously).

Vaughn discloses a scraper plate 68 (apparently a wooden board) which is used to scrape excess facial powder from a perforate plate, prior to using a tamper to compress the facial powder into what will become a cosmetic powder puff. The scraper is angled, and thus would compact the powder in the hopper, leading to differences in bulk density between the powder bulk and the powder in the aperture, which is clearly undesirable in Stewart.

Further, as depicted Figure 10 in the '290 Vaughn reference, it can be clearly seen that the scraper 68 in Vaughn *contacts* the upper surface of the slide plate 56 in which are formed apertures 61 through the cosmetic powder is directed in the formation of the powder puffs. *This would not suggest a non-contacting arrangement, nor one at a positive pre-selected height, as claimed in claim 1.* Thus, even if the Stewart and Vaughn references were combined, each and every feature of the claimed invention would not be present and constructed in a manner according to claim 1 and the claims dependent thereon, including claims 2, 7-9, 24-25, 27, 28, and 37-40.

For these additional reasons, it is requested the rejection of claims 1, 2, 7-9, 24-25, 27-28, 37-40 be withdrawn and the claims be allowed.

4. Claim 19-21 are non-obvious over Stewart, as one of ordinary skill would not be motivated to modify Stewart in a manner which would compact the powder in the bed, thus increasing its bulk density.

Stewart's teaching away from powder compression is detailed above. For the reasons previously explained, one of ordinary skill would not seek to modify Stewart to incorporate a forward acute angle, as doing so would destroy the advantage of maintaining bulk density. Nothing in Morris (US 4,850,259) would change this.

Additionally though, Applicants point out that the disclosure of both Morris and Stewart indicate doctor blades which are perpendicular to the base surface

of a powder hopper, and as such, neither meet the "forward acute angle" limitation of claim 1. In the last office action, the examiner stated that Morris teaches levelers 22, 23 with forward acute angles. Applicant does not view the pointed tips at the bottom of the leveler blades 22 and 23 to meet this limitation of claim 1, as the depicted blade faces are indeed perpendicular.

Morris furthermore relates to a system where powder is spread in a hopper to a uniform thickness and doses are extracted from through the entire layer of the powder. Doctor blades, 22 and 23, assure that the thickness of the powder bed is uniform so that tubes 15 descending into the powder are uniformly filled. The bed is then raked to fill in the cavities in the powder created by the tubes extracting powder, and again leveled with the doctor blades 22 or 23, rather than with both blades 22 and 23. The examiner will note that in Morris, col. 4, lines 4-25, it is explained that only one blade, 22 or 23, functions at one time. Thus when blade 23 is performing a leveling function, blade 22 is in an inoperative mode.

Also Morris incorporates rakes and blades in its device to create a uniform bed, from which powder slugs are extracted. After extraction, pockets are left in the bed, excess powder is fed into the hopper, which the raking fills in, and then the perpendicular blades level off. Concerns about filling extraction pockets are not present in Stewart, which gravity fills cavities in the base plate of the hopper without effecting bulk density (the cavities in the base plate being determinative of dosing volume), and where the doctor blade merely acts to remove excess powder and to then act as a barrier to retain the as of yet un-metered powder in the hopper. Thus, one reading Stewart, would not look to Morris for suggestions on how to modify the Stewart device.

For each of these reasons, Claims 19-21 are not rendered obvious over Stewart in light of Morris.

5. Claims 3-4 are not rendered obvious over Stewart in view of Yamamoto, as one would not be motivated to modify Stewart if in making such modification the powder bulk density would be increased.

Lastly, the examiner's rejection of claims 3-4 (and 22-23, although now moot in light of the cancellation of those claims) as obvious over Stewart in view of Yamamoto, fails for the same reason. One would not seek to modify Stewart in a way which would destroy its beneficial attribute of maintaining unchanged the bulk density of a powder by use of a perpendicular doctor blade and a gravity feeding approach. Yamamoto does nothing to change this.


Conclusion

In light of these amendments, all issues raised by the examiner to date have been addressed. As such, the claims are asserted to be in a condition for allowance. Applicant requests that a timely Notice of Allowance be issued in this case. If any matters exist that preclude issuance of a Notice of Allowance, the examiner is requested to contact the applicant's representative at the number indicated below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge any fees or credit any overpayment, particularly including any fees required under 37 CFR Sections 1.16 and/or 1.17, and any necessary extension of time fees, to deposit Account No. 07-1392.

Respectfully submitted,

Dated: 2 - 9 - 2007


James P. Riek

Attorney for Applicant
Reg. No. 39,009
Tel. (919) 483-8022
Fax. (919) 483-7988